

# LDC.

Louis Dreyfus Company

**Certificate of Analysis**  
USP Food Grade Glycerin  
Kosher & Halal

CUSTOMER \_\_\_\_\_  
PO # \_\_\_\_\_  
CODE # \_\_\_\_\_  
LOT # 466135317032  
BOL # \_\_\_\_\_

Lot Number: RG16091-365

Manufactured Date: 12/22/16

Property	Method	Specifications	Results
Purity by specific gravity	USP	Min. 99.7%	99.75
Specific Gravity @ 25 deg C	USP	Min 1.2618	1.2614
Identification A by FTIR	USP	Pass	Pass
Identification B	USP	Pass	Pass
Diethylene Glycol	USP	<0.10%	<0.10
Ethylene Glycol	USP	<0.10%	<0.10
Identity C (Confirmation of Glycerin by GC)	USP	Pass	Pass
Related Compounds - Individual	USP	Max 0.1%	<0.1
Related Compounds - Total	USP	Max 1.0%	<1.0
Assay (Anhydrous Basis)	USP	99.00% - 101.00%	100.95
Sulfate	USP	Max 20 ppm	<20
Chloride	USP	Max 10 ppm	<10
Chlorinated Compounds	USP	Max 30 ppm	<30
Fatty Acid & Ester	USP	Max 0.3 ml consumed	0.25
Heavy Metals (as Pb which is lead)	USP	Max 5 ppm	<5
Lead		Max 1 ppm	<1
Residue on Ignition	USP	Max 0.01%	<0.01
Appearance	USP	Transparent, free of particle and colorless	Pass
Color, APHA	USP	Max 10	0
Readily Carbonizable Substances		Pass	Pass
Water	USP	Max 0.3%	0.080
Odor			Pass
Residual Solvents	USP	Pass	Pass

PIRC -OW

Approval: Michael R. Morgan

Date: 22 DEC 2016

Michael R. Morgan - Lab Supervisor

IMPORTANT: All information provided is believed to be accurate and complete. The data provided is representative of the product quality on the date of analysis for the lot number indicated. This certificate of analysis may not include all of the constituents of the product. Persons using this information should make their own determination regarding its suitability for their particular application. This certificate of analysis shall not in any way limit or preclude the operation and effect of the applicable terms and conditions of sale.